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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,210

06/28/2004

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EXAMINER

CHEN, WEN YING PATTY

ART UNIT

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2871

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.		Applicant(s)	
	10/500,210		YAMASHITA ET AL.	
	Examiner		Art Unit	
	W. Patty Chen		2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No: _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Amendment filed on Jun. 26, 2007 has been entered. Claims 17-20 are newly added per the Amendment filed, therefore, claims 1, 3 and 17-20 are now pending in the current application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagi (JP 2001-281648) in view of Chang et al. (US 6867833) further in view of Koike et al. (US 2002/0018159) further in view of Kim et al. (US 2002/0018159).

With respect to claims 1 (Amended), 17 and 19 (New): Nakagi discloses in Figure 4 a transfective liquid crystal display comprising a pair of substrates (element 1) disposed opposite to each other with a liquid crystal layer (element 7) held between the pair of substrates, a reflection means (element 2) using ambient light as a light source, a backlight source (not show, Paragraph 0003), and a color filter (element 13) having a transmissive region (element 5) and a reflective region (element 4) which are provided in each picture element of the color filter and which have colored layers comprising a single material, wherein the colored layers of the transmissive region and the reflective region have the same thickness.

Nakagi failed to specifically disclose the use of a three-peak type LED backlight source, an aperture formed in the reflective region and that a color reproducibility of transmissive region chromaticity is 60% or more.

However, Kim et al. disclose in Figure 4A the formation of aperture in the reflective region and Koike et al. teach in Paragraph 0056 to form colorless regions in the transmissive portion of a color filter layer so as to achieve a x value of the chromaticity of the red picture element of about 0.64 and a y value of the chromaticity of the green picture element of about 0.57 (as shown in Figure 4A). Further, Chang et al. teach in Column 7 lines 43-45 the use of a

three-peak type LED backlight source in a transflective type liquid crystal display device, such that when the backlight source is used in addition to the color filter layer of the liquid crystal display device, a further increase in chromaticity is achieved (element 81, as shown in Fig. 5). As a result, the color reproducibility of transmissive region chromaticity would be 60% or more since the x value of the chromaticity of the red picture element would be much more than 0.64 and the y value of the chromaticity of the green picture element would be much more than 0.57.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a transflective liquid crystal display device as taught by Nakagi wherein apertures are formed in the reflective region as taught by Kim et al., since Kim et al. teach that by forming apertures in the reflective region helps to adjust the characteristics of color and the brightness of the display device (Paragraph 0053) and wherein colorless regions are formed in the transmissive portion of a color filter layer as taught by Koike et al., since Koike et al. teach that an improvement in color reproducibility on the color filters can be achieved (Paragraph 0050) and further wherein the backlight source is a three-peak type LED backlight as taught by Chang et al., since Chang et al. teach that by using the three-peak type LED backlight together with the color filters enhances the color saturation at the backlight mode while maintaining the displaying effect of high reflectance (Column 7, lines 46-47 and Column 8, lines 5-18).

With respect to claims 3 (Amended), 18 and 20 (New): Nakagi discloses in Figures 1 and 2 a transflective liquid crystal display comprising a pair of substrates (element 1) disposed opposite to each other with a liquid crystal layer (element 7) held between the pair of substrates, a reflection means (element 2) using ambient light as a light source, a backlight source (not

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show, Paragraph 0003), and a color filter (element 3) having a transmissive region (element 5) and a reflective region (element 4) which are provided in each picture element of the color filter and which have colored layers comprising a single material.

Nakagi further discloses in Figure 1 that the color filter (element 3) includes the picture elements of at least one color in each of which the colored layers of the reflective region (element 4) and the transmissive region (element 5) have different thickness.

Nakagi failed to specifically disclose the use of a three-peak type LED backlight source, an aperture formed in the reflective region and that a color reproducibility of transmissive region chromaticity is 60% or more.

However, Kim et al. disclose in Figure 4A the formation of aperture in the reflective region and Koike et al. teach in Paragraph 0056 to form colorless regions in the transmissive portion of a color filter layer so as to achieve a x value of the chromaticity of the red picture element of about 0.64 and a y value of the chromaticity of the green picture element of about 0.57 (as shown in Figure 4A). Further, Chang et al. teach in Column 7 lines 43-45 the use of a three-peak type LED backlight source in a transfective type liquid crystal display device, such that when the backlight source is used in addition to the color filter layer of the liquid crystal display device, a further increase in chromaticity is achieved (element 81, as shown in Fig. 5). As a result, the color reproducibility of transmissive region chromaticity would be 60% or more since the x value of the chromaticity of the red picture element would be much more than 0.64 and the y value of the chromaticity of the green picture element would be much more than 0.57.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a transfective liquid crystal display device as taught by Nakagi

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wherein apertures are formed in the reflective region as taught by Kim et al., since Kim et al. teach that by forming apertures in the reflective region helps to adjust the characteristics of color and the brightness of the display device (Paragraph 0053) and wherein colorless regions are formed in the transmissive portion of a color filter layer as taught by Koike et al., since Koike et al. teach that an improvement in color reproducibility on the color filters can be achieved (Paragraph 0050) and further wherein the backlight source is a three-peak type LED backlight as taught by Chang et al., since Chang et al. teach that by using the three-peak type LED backlight together with the color filters enhances the color saturation at the backlight mode while maintaining the displaying effect of high reflectance (Column 7, lines 46-47 and Column 8, lines 5-18).

Response to Arguments

Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsushita et al. (US 6501521) disclose a transfective liquid crystal display comprising apertures formed in the reflective portion of the color filter layer and wherein the color filter layer can have the same or different thickness between the reflective region and the transmissive region.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. Patty Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W. Patty Chen
Examiner
Art Unit 2871

WPC
9/21/07


ANDREW SCHECHTER
PRIMARY EXAMINER